

FIG. 1

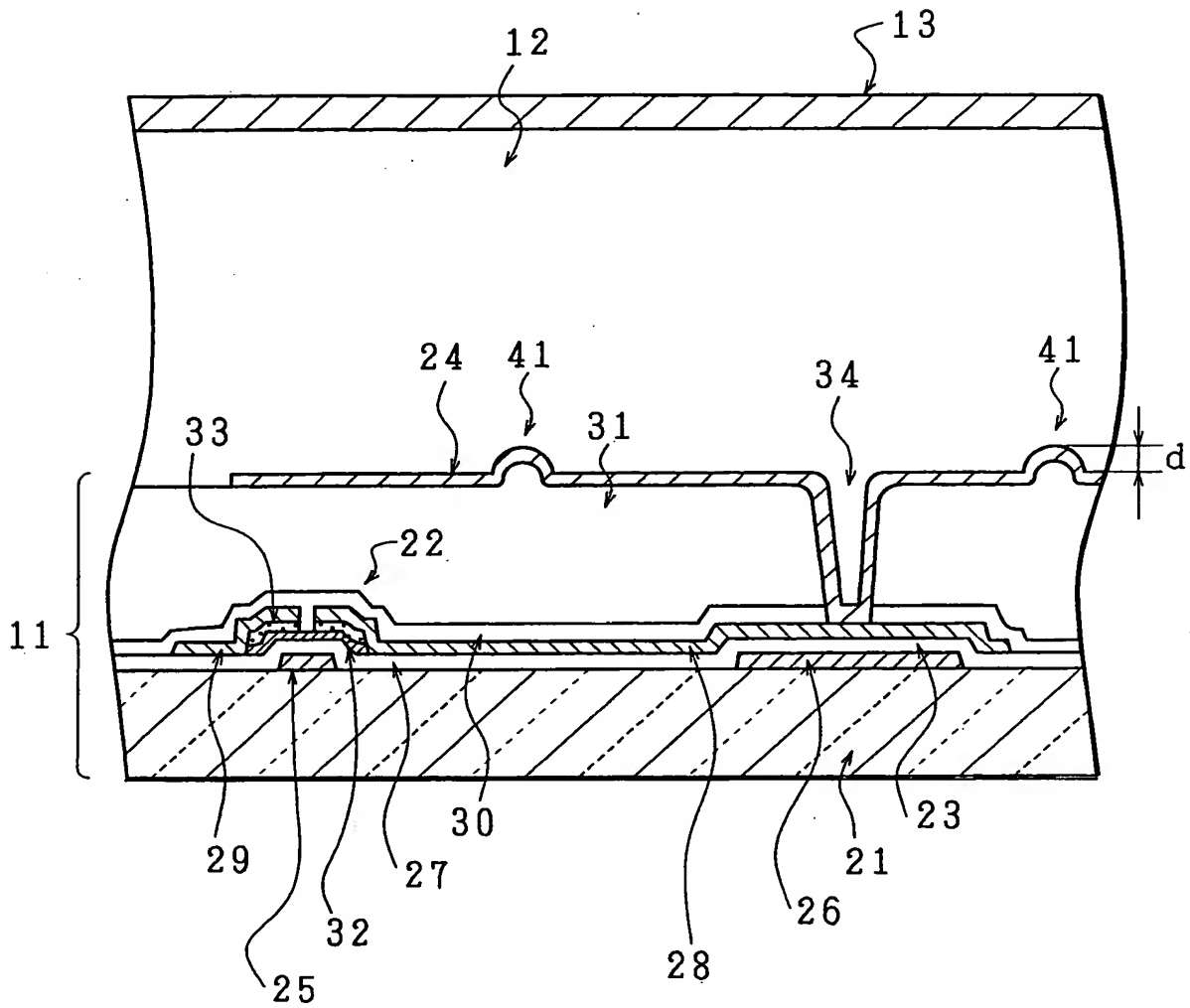
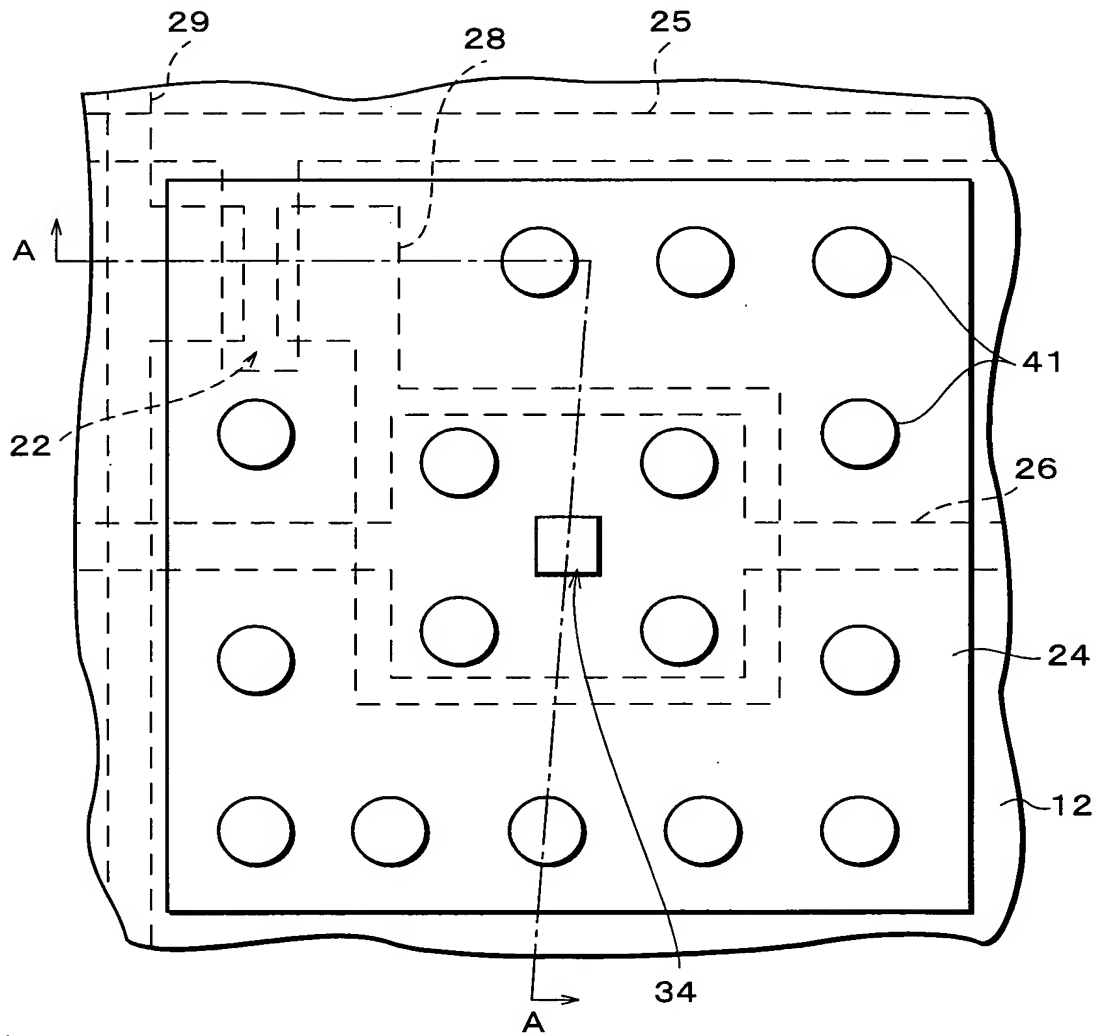
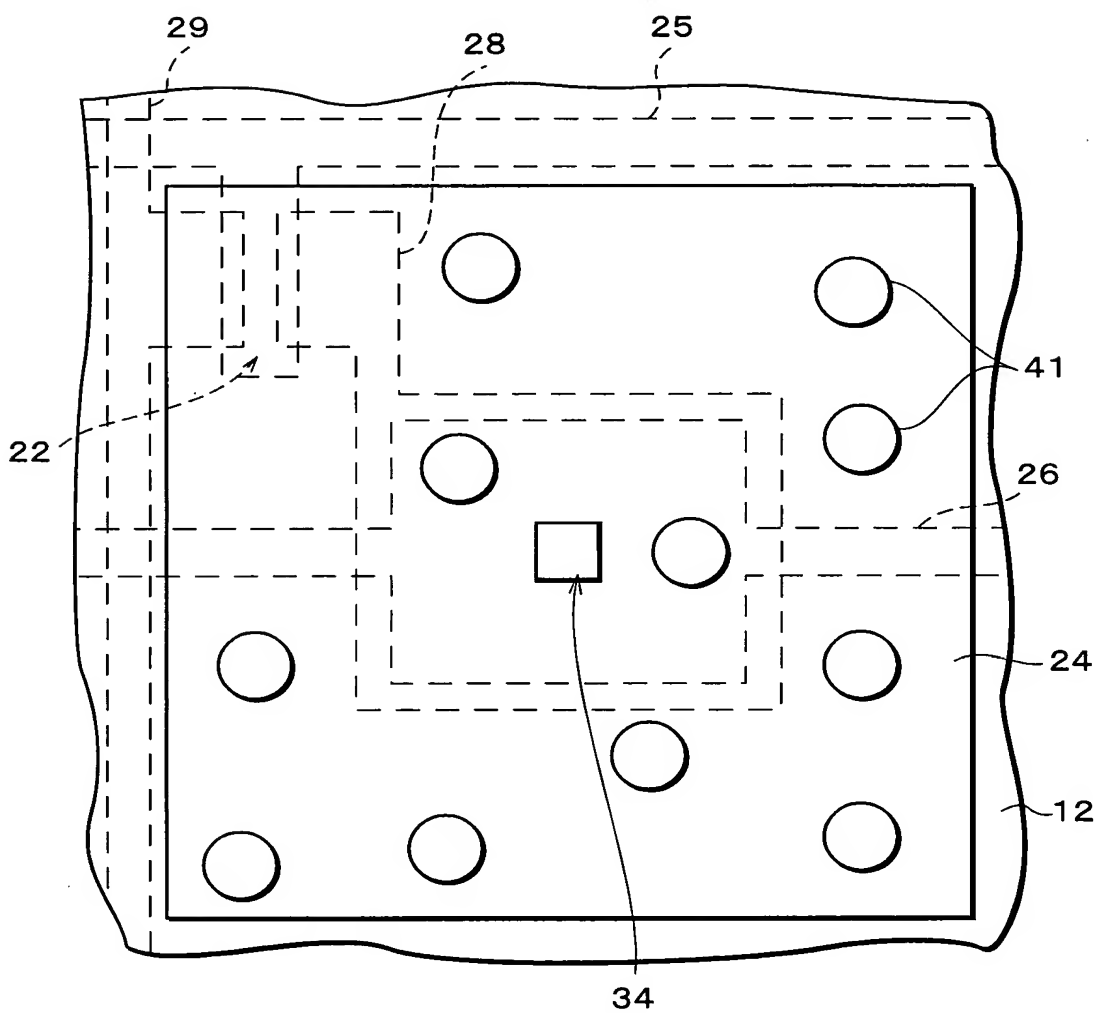


FIG. 2



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FIG. 3



20000275011

FIG. 4 (a)

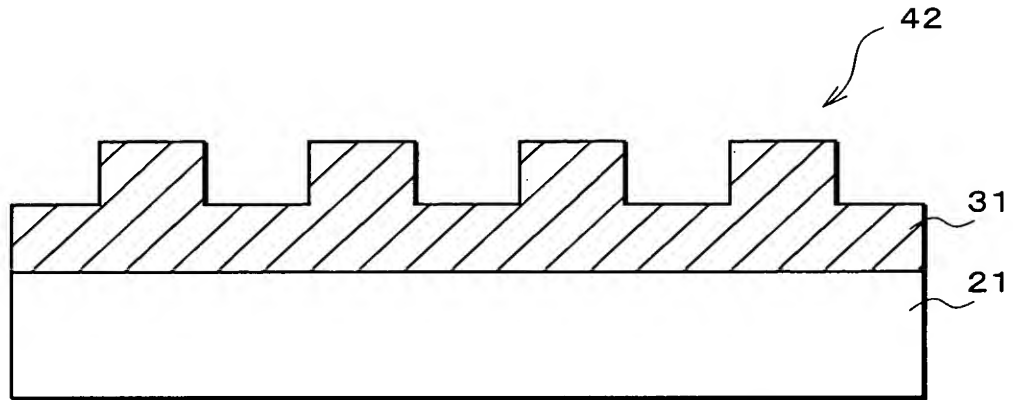
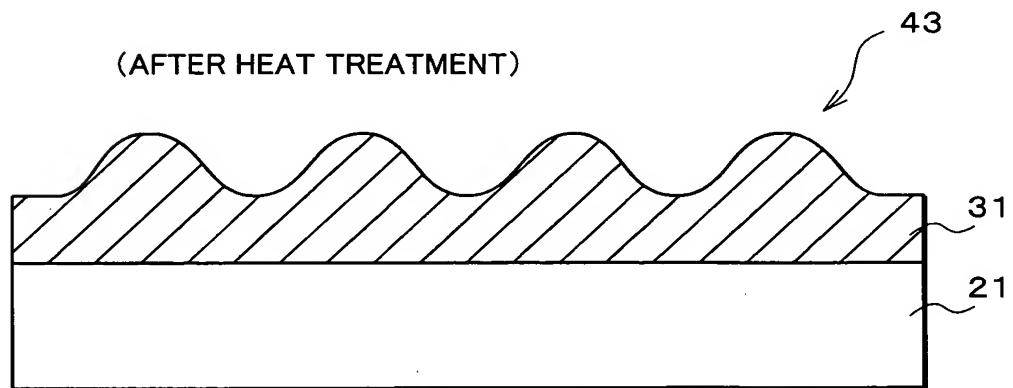


FIG. 4 (b)

(AFTER HEAT TREATMENT)



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FIG. 5 (a)

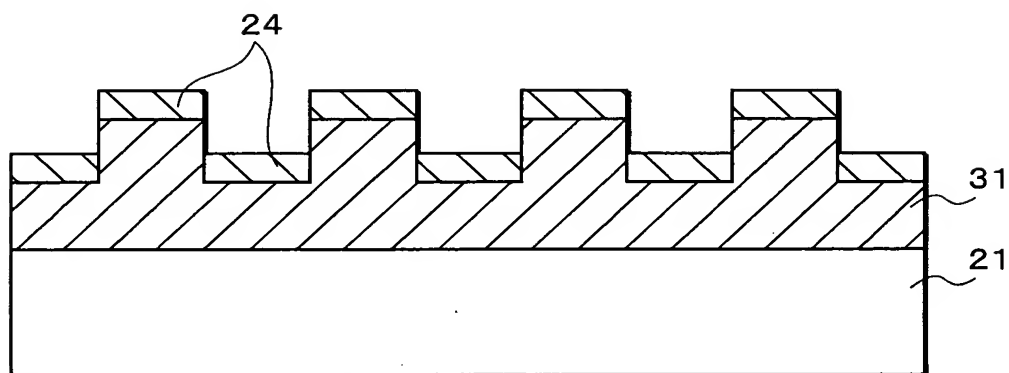
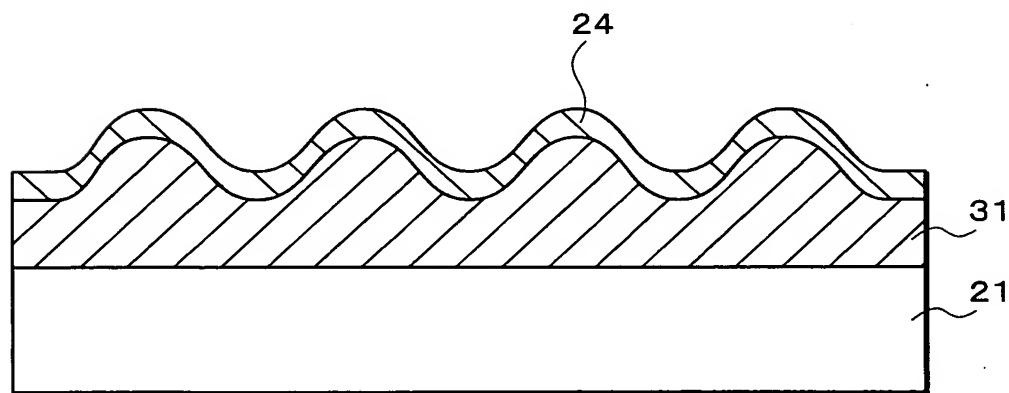
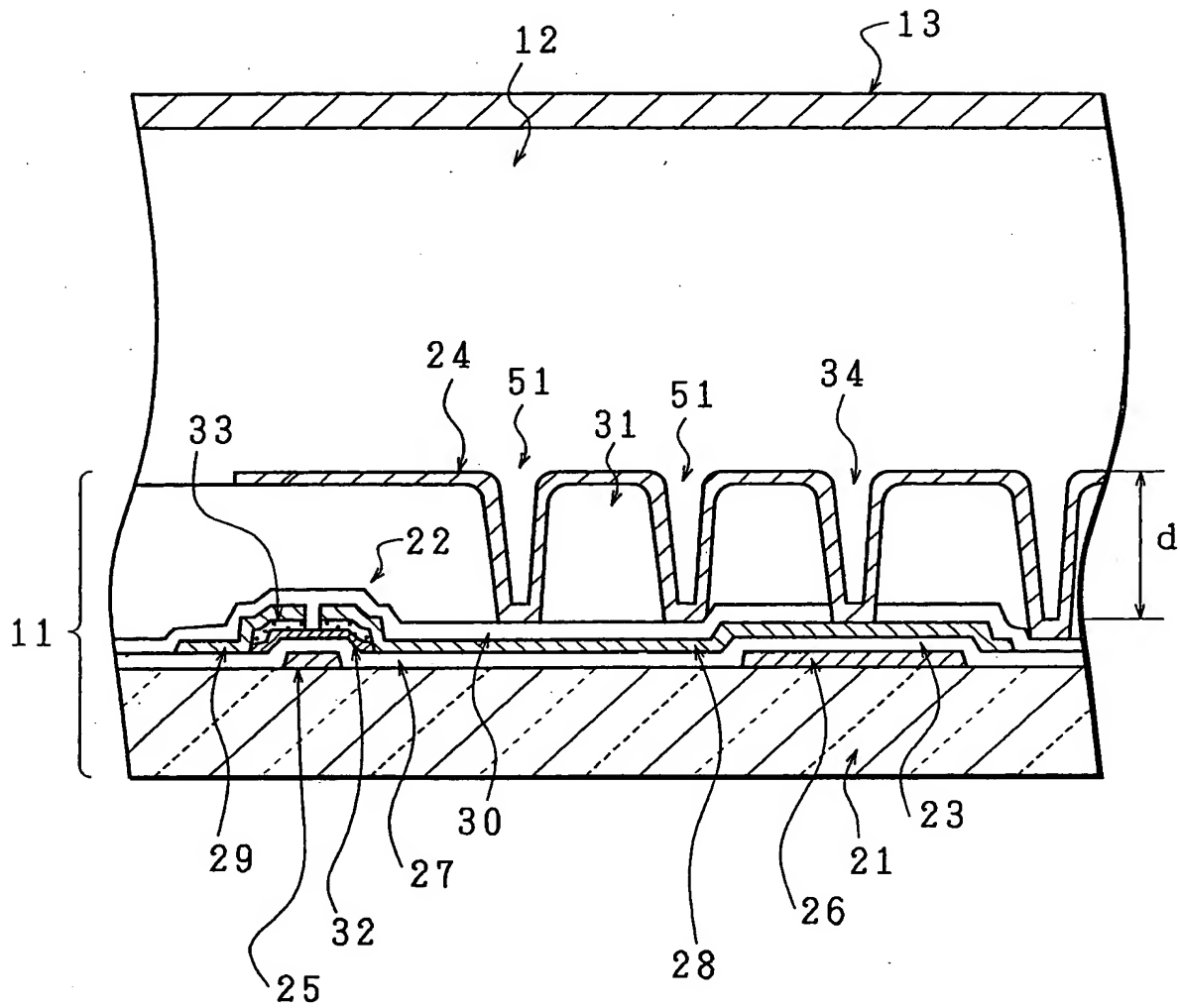


FIG. 5 (b)



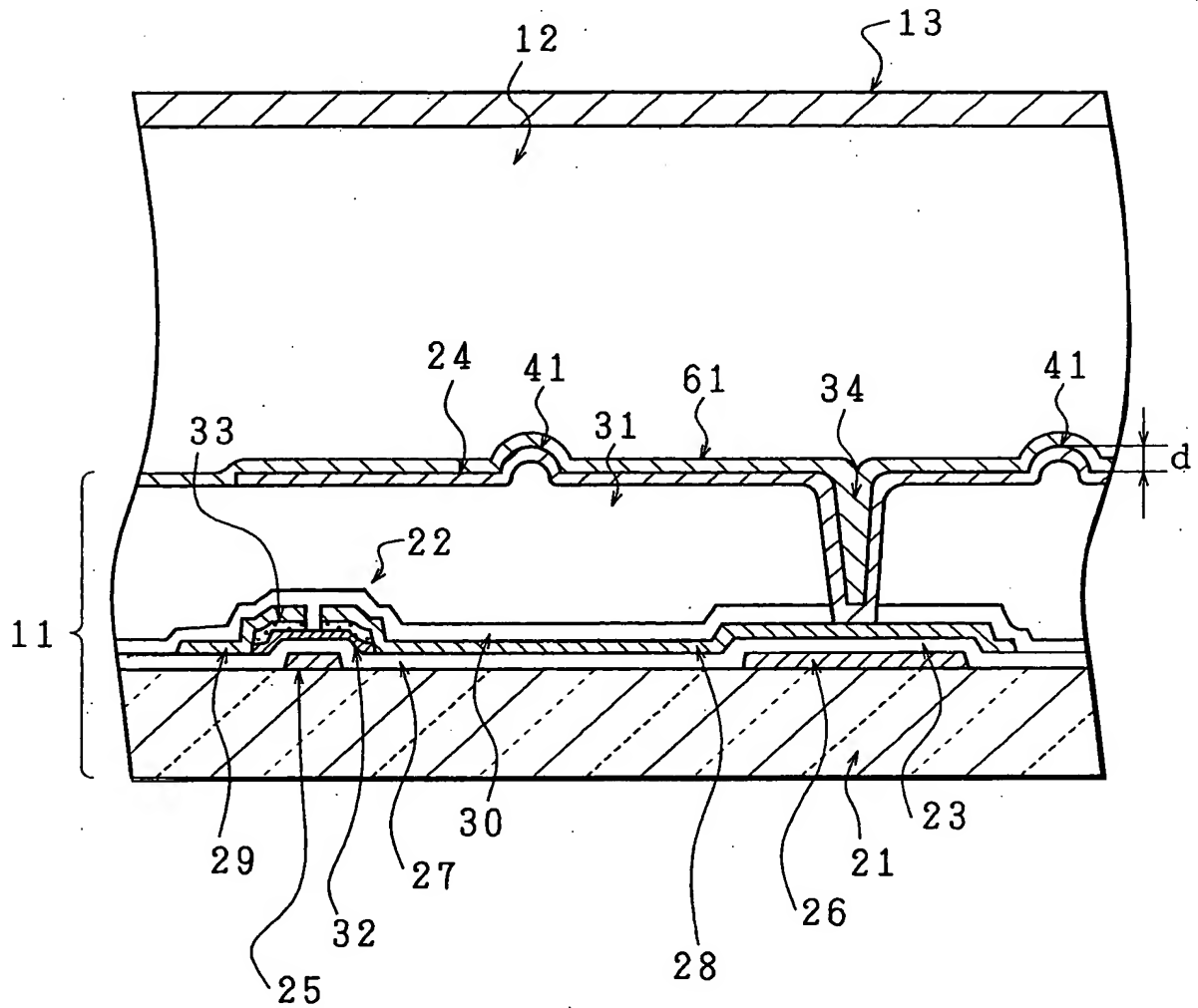
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FIG. 6



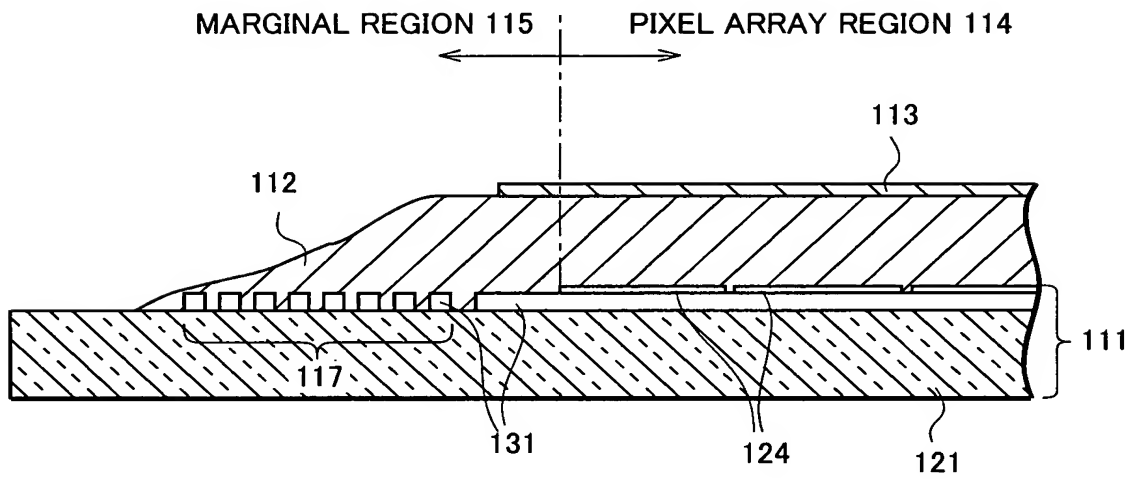
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FIG. 7



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FIG. 8



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FIG. 9 (a)

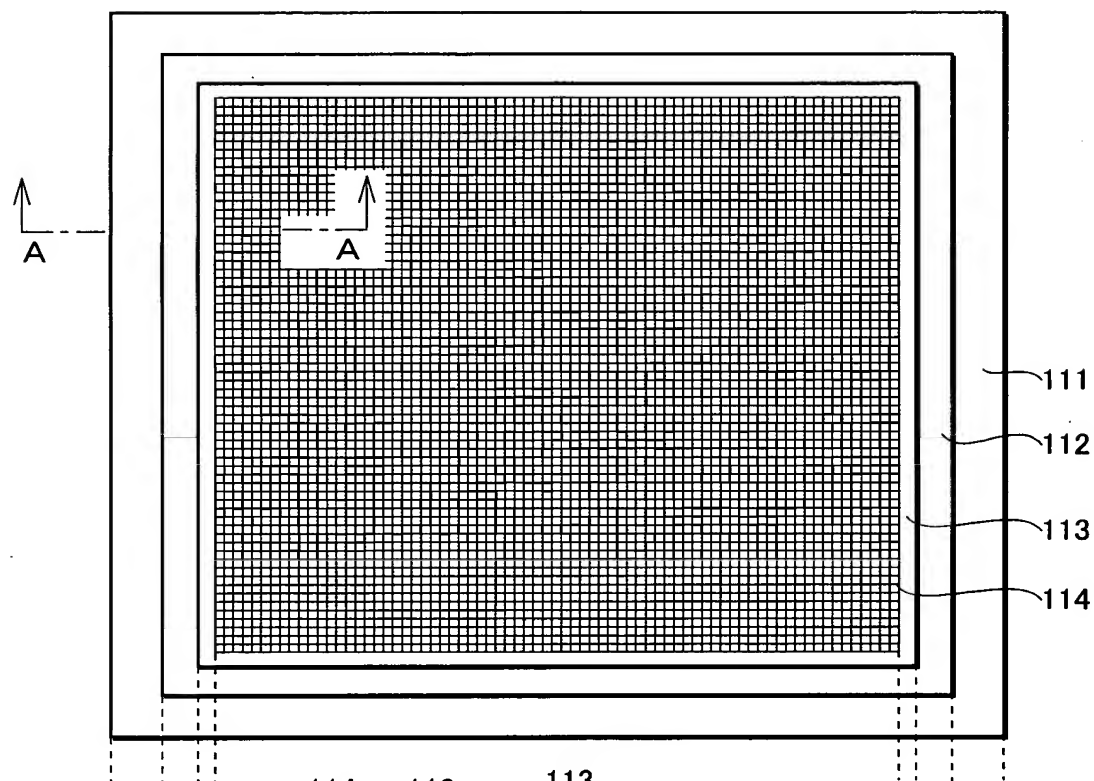
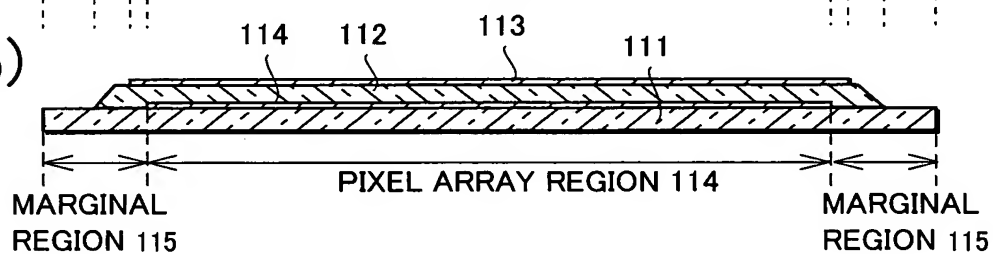


FIG. 9 (b)



This cross-sectional view shows a semiconductor device with a trench structure. The device includes a substrate (111) with a top layer (112) and a bottom layer (113). A trench (124) is formed in the substrate, with a bottom surface (122) and side walls (123). A layer (121) is deposited on the bottom surface (122) and side walls (123). A layer (125) is deposited on the top surface (112). A layer (126) is deposited on the top surface (112) and the side walls (123) of the trench (124). A layer (127) is deposited on the top surface (112) and the side walls (123) of the trench (124). A layer (128) is deposited on the top surface (112) and the side walls (123) of the trench (124). A layer (129) is deposited on the top surface (112) and the side walls (123) of the trench (124). A layer (130) is deposited on the top surface (112) and the side walls (123) of the trench (124). A layer (131) is deposited on the top surface (112) and the side walls (123) of the trench (124). A layer (132) is deposited on the top surface (112) and the side walls (123) of the trench (124). A layer (133) is deposited on the top surface (112) and the side walls (123) of the trench (124). A layer (134) is deposited on the top surface (112) and the side walls (123) of the trench (124).

FIG. 11(a)

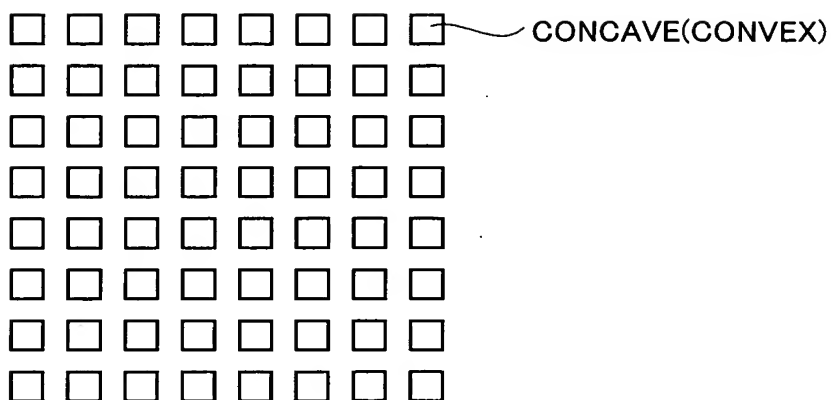


FIG. 11(b)

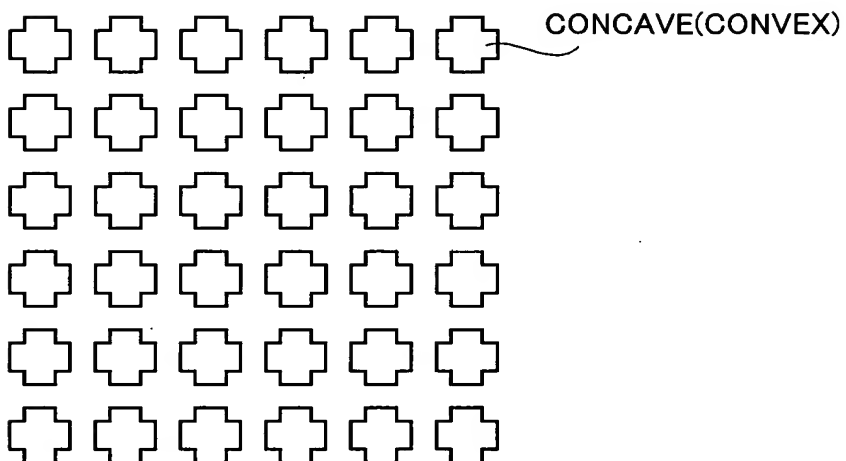
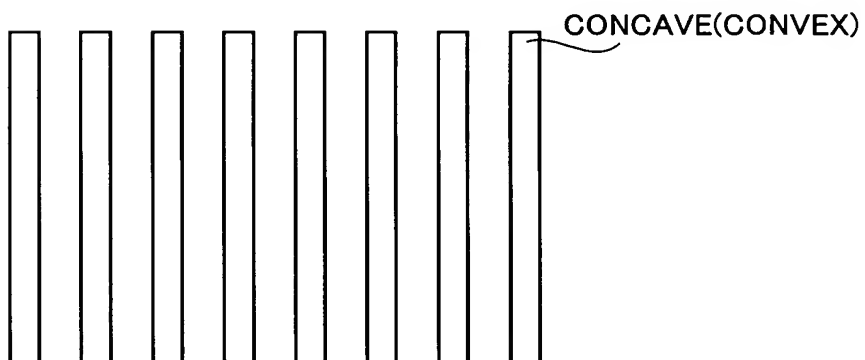


FIG. 11(c)



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FIG. 12 (a)

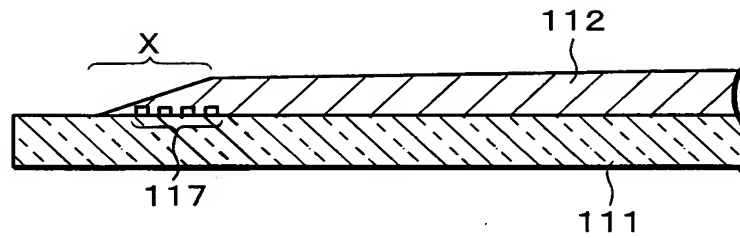
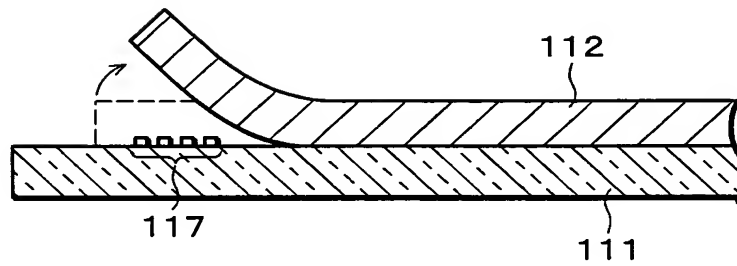
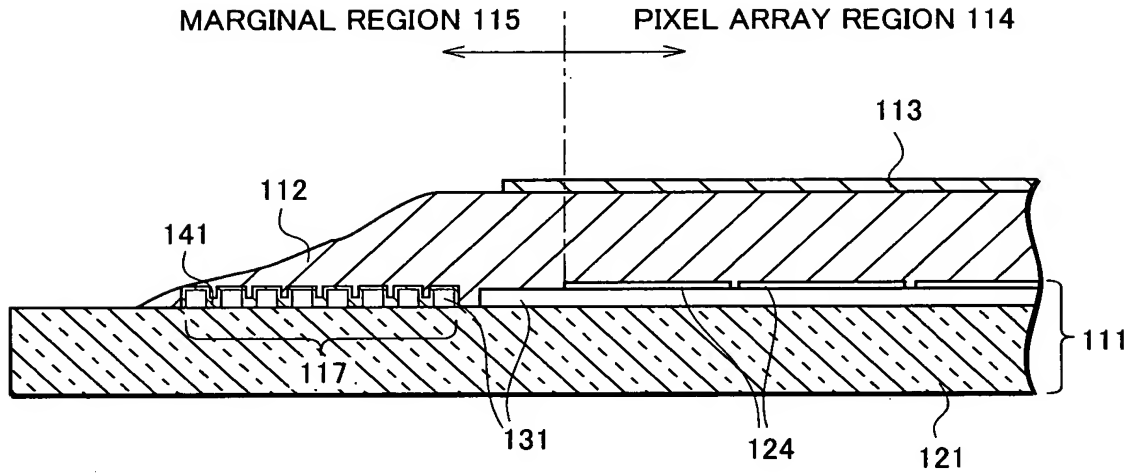


FIG. 12 (b)



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FIG. 13



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FIG. 14

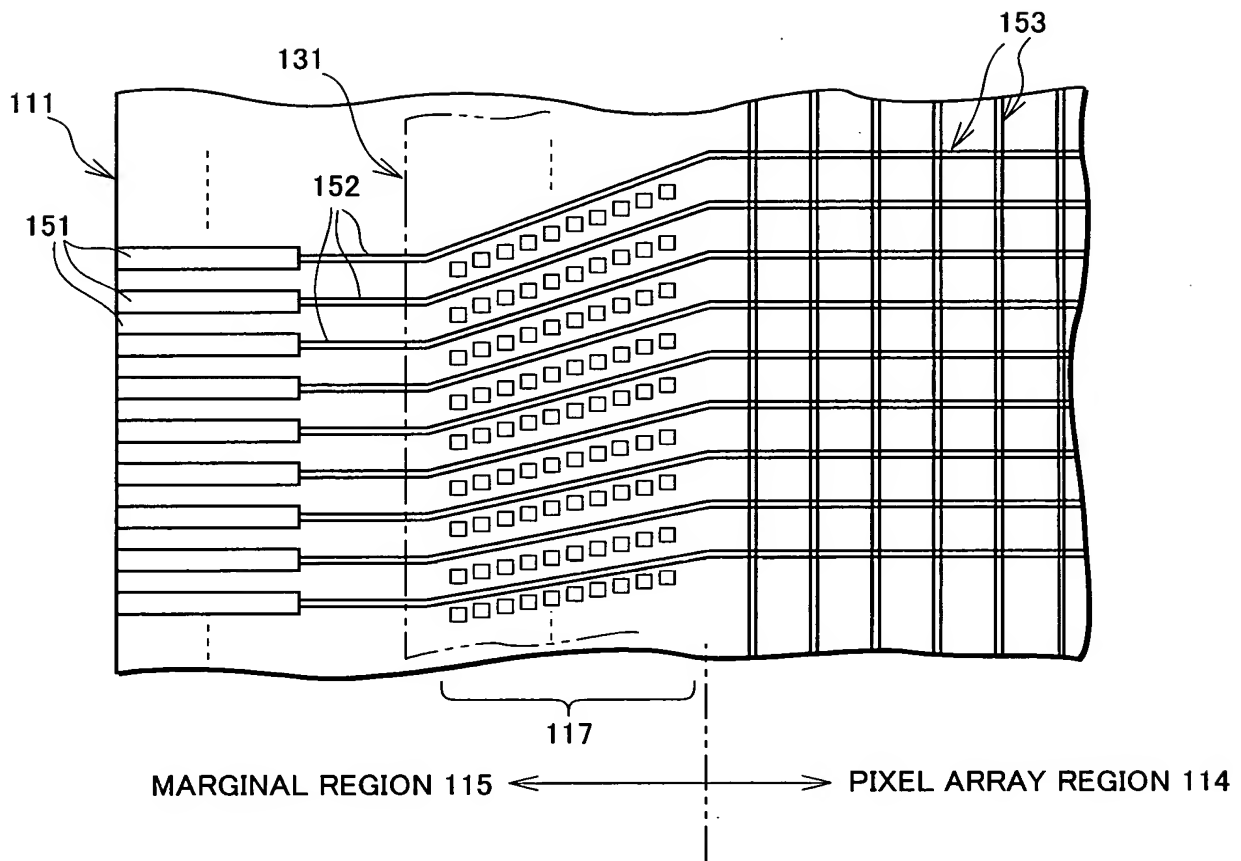


FIG. 15

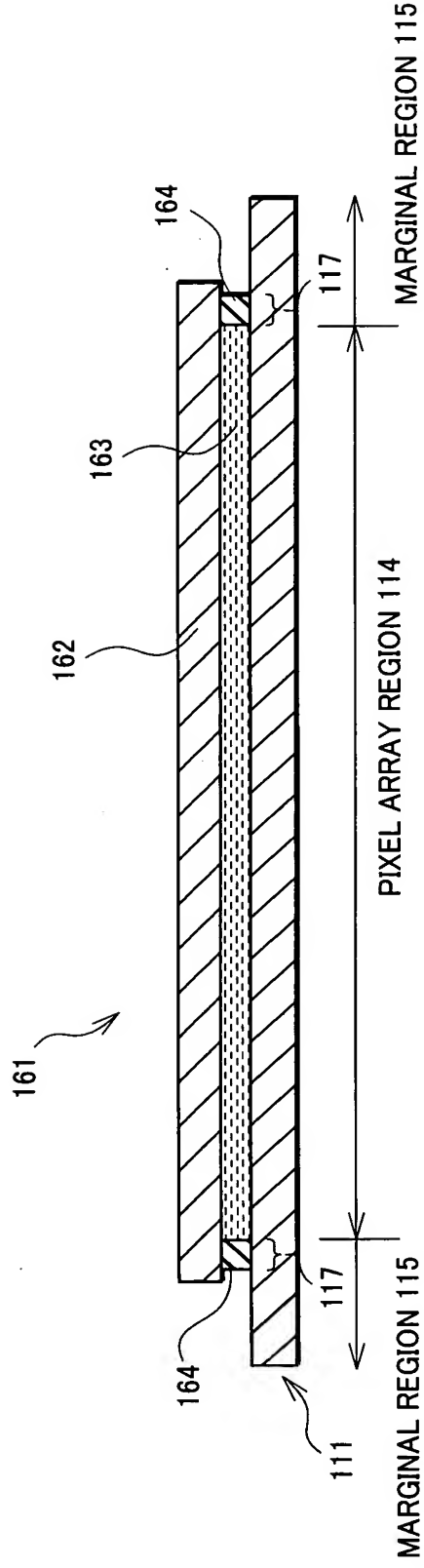
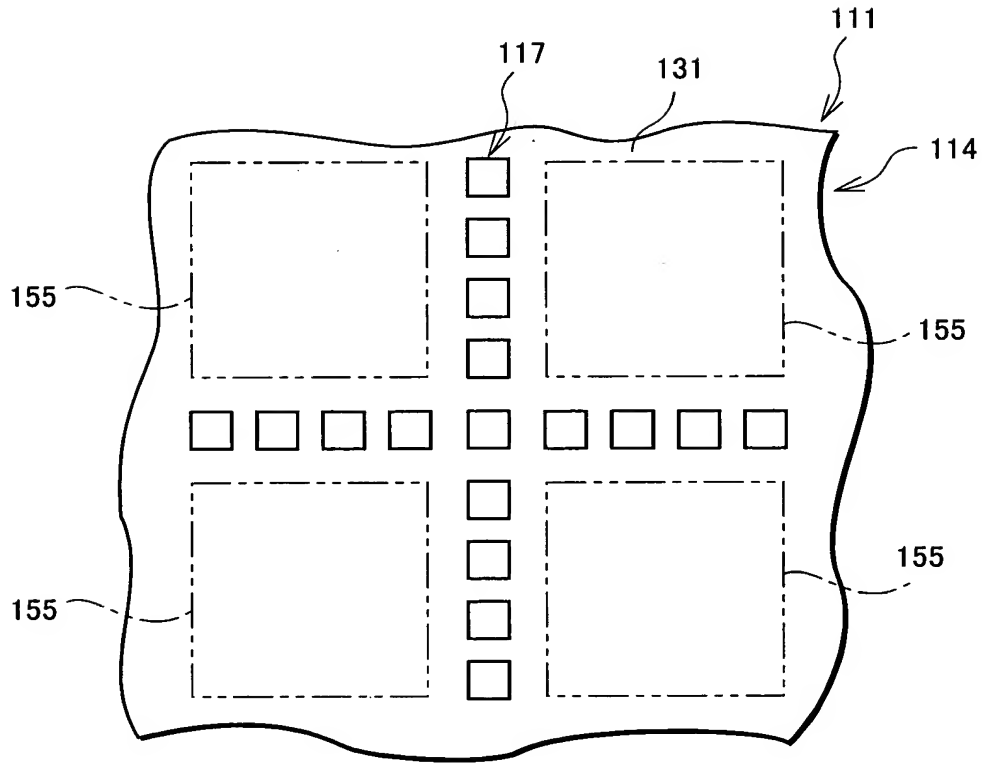


FIG. 16



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FIG. 17

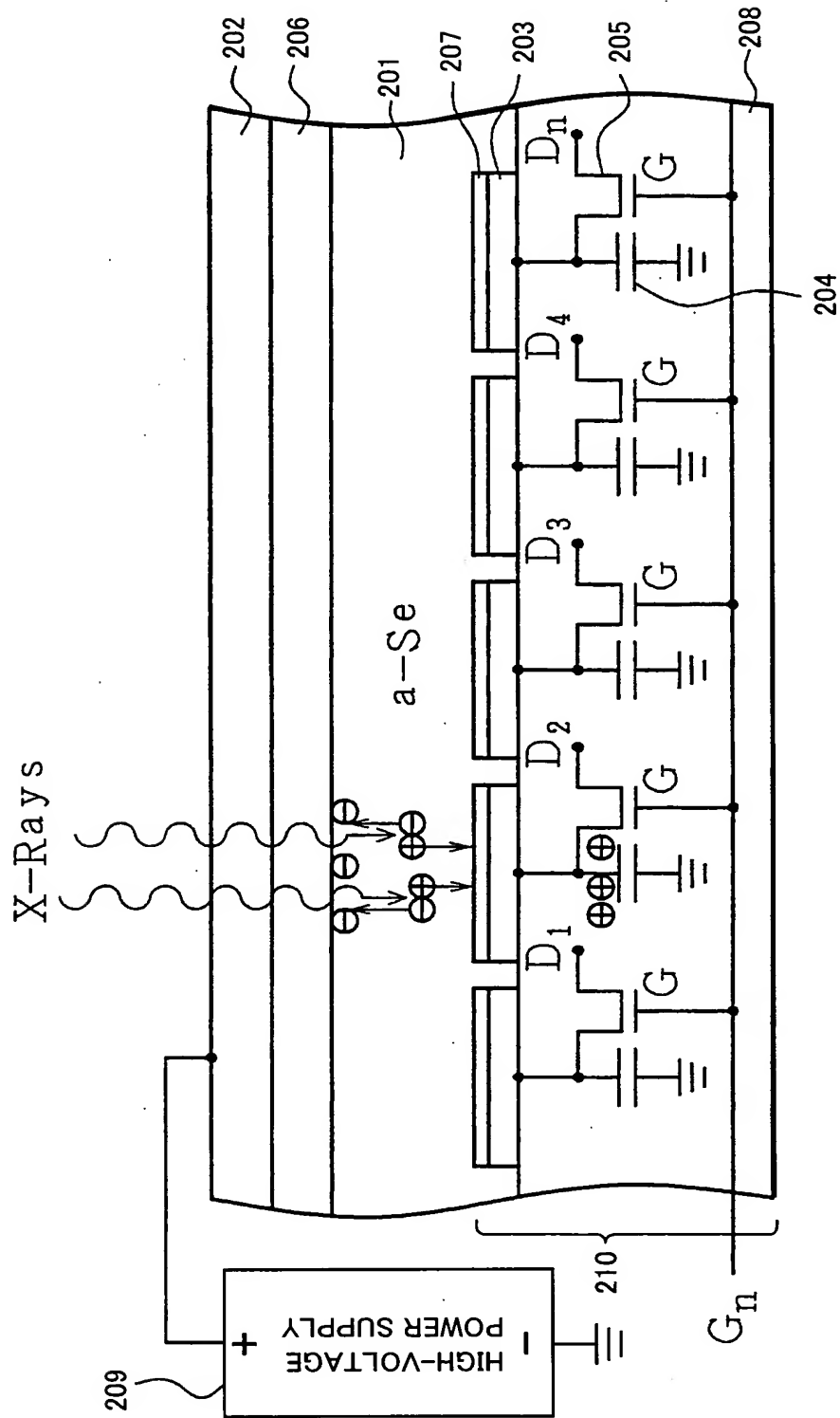


FIG. 18

